

City of Raleigh Solid Waste Services Backyard Composting Program Evaluation Report



Earth Machine™ Norseman Environmental

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Executive Summary

Background:

The City of Raleigh Solid Waste Services Department (SWS) launched a backyard composting program in 1998 with its first annual one-day compost bin sale. This annual one-day sale model was used through 2005 when SWS switched to an on-demand sale model that operated out of the SWS office until it was discontinued in 2009. No bins were sold in 2010 and the City returned to the annual sale model in 2011.

The goal of the backyard composting program is to promote sustained composting among City residents to reduce the yard and food waste transported and placed in waste disposal facilities, thereby saving valuable landfill space and positively impacting public health.

Evaluation Purpose:

To examine the effectiveness of the one-day sale model in promoting sustained backyard composting, the Office of Waste Reduction & Community Outreach of SWS requested an evaluation of the program using data collected at the most recent one-day bin sale in 2005. The purpose of this evaluation was to provide information to SWS about composting behaviors and satisfaction levels of the City residents that purchased bins in 2005. This information would be used to inform future composting program efforts concerning the one-day sale model.

The analysis was completed by an Evaluation Team (Team) from the Masters in Public Administration Program at North Carolina State University. The evaluation was guided by four questions:

- How successful was the 2005 one-day sale at promoting regular composting among bin purchasers?
- Was the information provided with the bins on day of purchase adequate for effective use?
- Is bin sale level sufficient for meaningful reduction of food scraps and yard waste from waste disposal facilities?
- What are the barriers that prevent residents from using composting bins?

Survey:

The Team developed a survey diagnostic with questions regarding composting behavior, composting knowledge, and satisfaction with the bin product. The survey was mailed by SWS to 835 Raleigh residents that purchased an Earth Machine composting bin at the 2005 one-day sale and achieved a response rate of 45% (377 surveys).

Survey recipients received a pre-survey letter announcing the survey and encouraging participation. It explained that survey results would be available on the City website and that as an incentive for participation, respondents would be entered into a drawing to win one of three \$50 gifts cards.

On average, respondents were older, Caucasian and longtime residents of Raleigh. The average age of the respondents was 58 years at time of survey, which implies that the average

age at the time of bin purchase was 52 years. The average number of years lived in Raleigh was 25.

Key Findings:

- 1) ***The one-day sale model is an effective strategy for promoting home composting.***
 - 77% of respondents indicated that they are still composting with the Earth Machine bin.
 - 80% of respondents reported increased composting after bin purchase.
- 2) ***The majority of respondents reported satisfaction with the Earth Machine product.***
 - 68% of respondents were satisfied with the Earth Machine product.
 - Only 11% reported that they were dissatisfied.
 - 21% were neutral.
- 3) ***The one-day sale was successful at encouraging new composters.***
 - 62% of respondents reported having little or no prior knowledge of composting at time of bin purchase.
 - Almost 33% that categorized themselves as beginners are now considered long-term composters.
- 4) ***Providing more information at time of sale may further increase composting.***
 - 37% indicated that they did not receive enough information on day of sale.
- 5) ***Among the minority of respondents that no longer compost, the three most common barriers listed were:***
 - Difficulty with the Earth Machine product
 - Problems with the two piece unit separating and not snapping together properly
 - Bin compatible turning fork needed
 - Difficulty with the composting process
 - Pests
- 6) ***Projected impact of one-day sale on Wake County landfill is small, but significant.***
 - A systematic estimated annual reduction of 208 to 442 tons of food waste is diverted by City composters from Wake County landfill assuming each sales produces achieves similar level of benefit.
 - This tonnage equals an annual food waste reduction of 0.25 to 0.5% of the total amount placed in the County landfill.

Recommendations:

- Continue to conduct the backyard composting program using the one-day sale model.
- Explore potential to expand program into varying demographics
- Consider discontinuing sale of the Earth Machine compost bin and switch to a new composting product.
- Consider expanding compost education offerings.